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The Work of an American School for the Rehabilitation of the Disabled

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THE WORK OF AN AMERICAN SCHOOL FOR THE REHABILITATION OF THE DISABLED.

By Douglas C. McMurtrie, New York.

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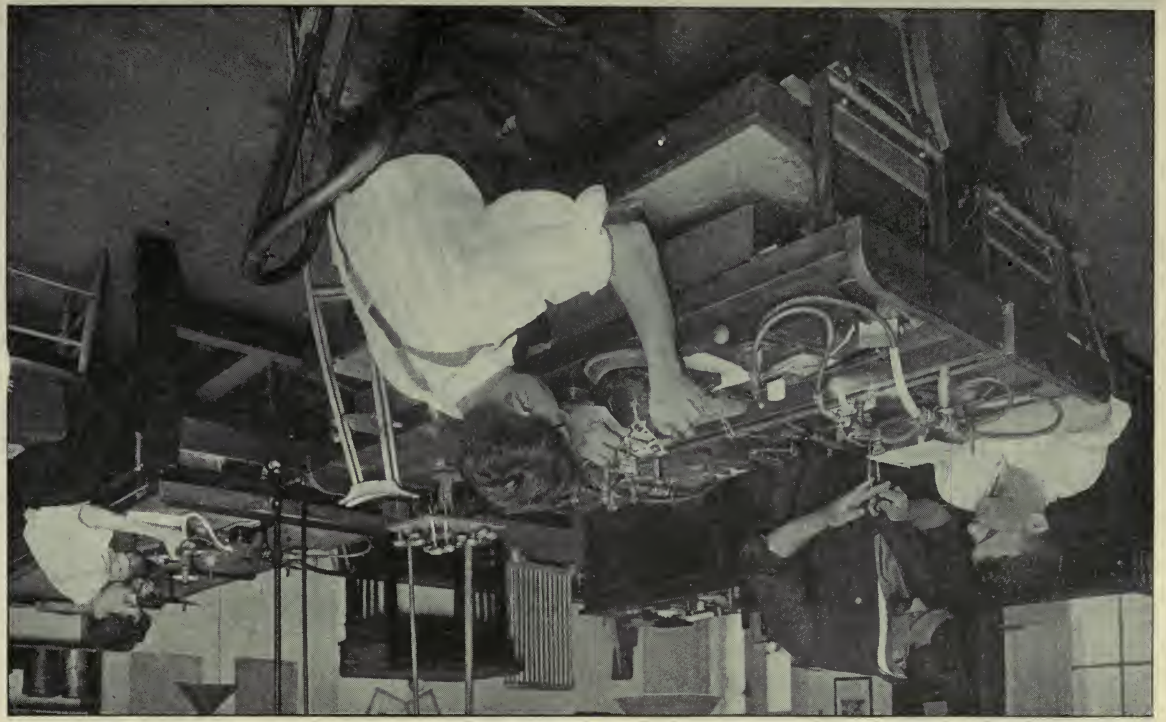
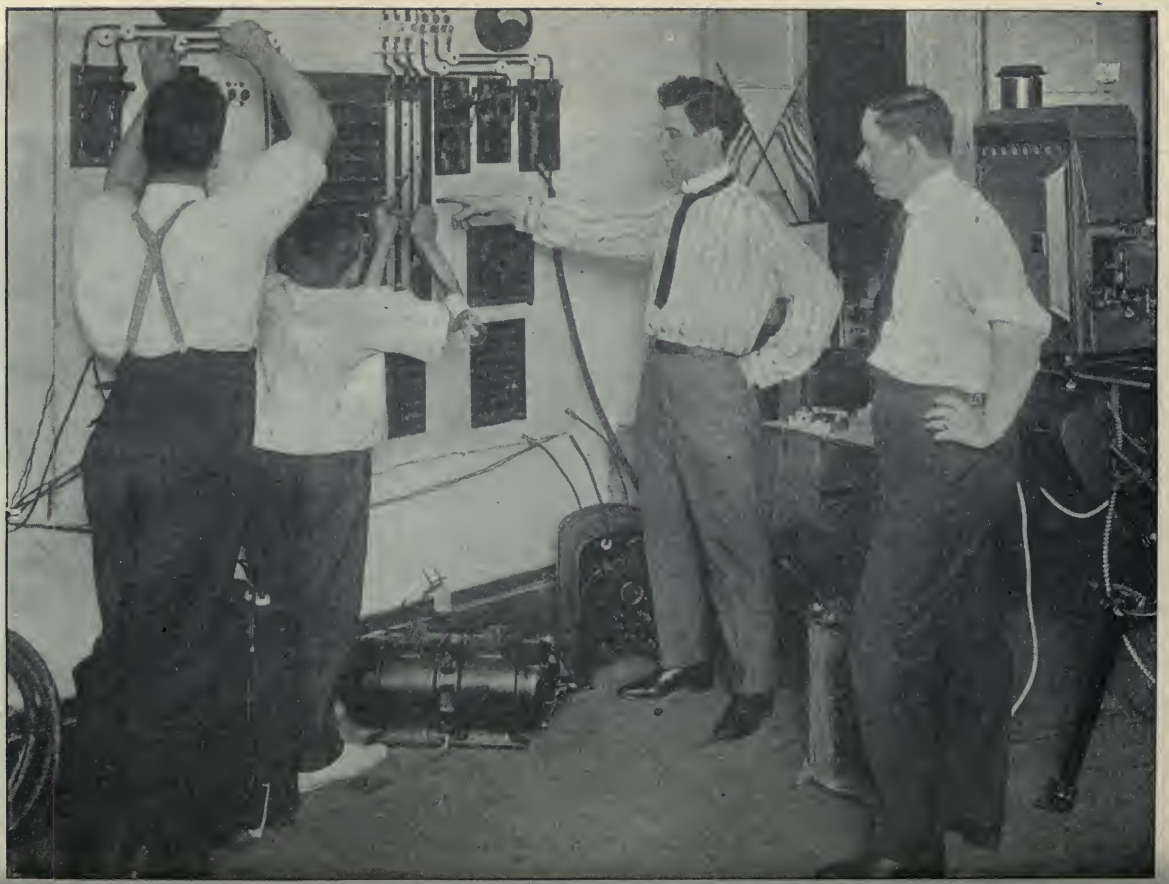
Before the United States had been at war a month, before the first 50,000 men had been sent overseas, a group of persons interested in industrial training for cripples saw the necessity of making provision for the economic reconstruction of American soldiers when they should return home wounded and maimed. The experience of France, Italy, and the other allied countries had shown that the way to help the crippled soldier to rebuild his life was to teach him a trade in which he could earn a decent livelihood despite his injuries. If we in America were to profit by European experience, it was clear that we should prepare at once to give our American *mutilés* the needed trade training. In the belief that the American Red Cross was the agency which could most successfully sponsor such a scheme, those interested in the project proposed to the Red Cross that it should organize a school where disabled

soldiers could be taught to be self-supporting At the same time, Mr. Jeremiah Milbank of New York City offered to supply the necessary funds and to give the use of a building for the school. The proposition was favorably acted upon by the Red Cross, the offer accepted, and in the autumn of 1917 there came into being the Red Cross Institute for Crippled and Disabled Men.

It will be noted that the organization has been officially designated an institute, not for crippled and disabled soldiers, but for crippled and disabled *men;* its benefits are extended to the cripples of peace as well as of war. Here in America the number of men annually crippled in industrial accidents is very large—the most conservative estimate puts it at 80,000—yet there has been no attempt to solve in a broad way the problem of their reëstablishment in industry. The organizers of the Red Cross Institute decided, therefore, that in order to make their work of the greatest value to the nation, they should undertake to reconstruct not only the disabled soldier but the disabled industrial worker as well. They also saw that the best way to build up an efficient organization for the reëducation of the future returned soldier was to start at once with civilian cripples. The disabled soldier is, of course, a very different type from the man who has been injured in an accident and a long time out of work. He is separated as by a



JEWELRY CLASS, RED CROSS INSTITUTE FOR CRIPPLED AND DISABLED MEN.



One-armed Instructor and Pupil,, Mechanical Draughting.

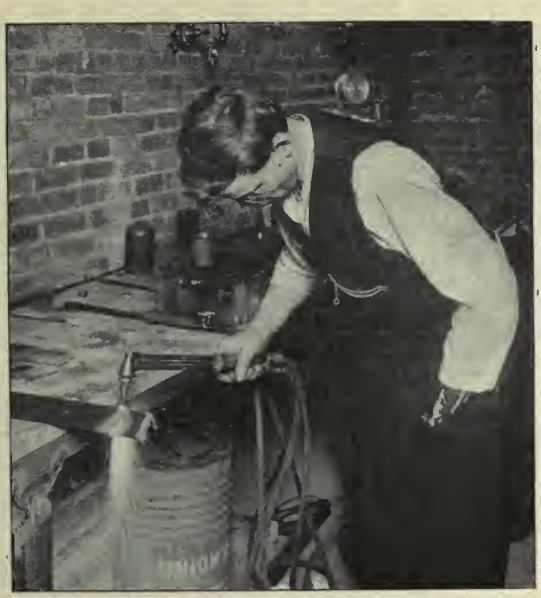
chasm from the congenital cripple, but practice in training the one is bound to throw light on the reëducation of the other.

The Institute's part in the reëducation of American soldiers depends on the extent to which it is utilized by the Federal Board for Vocational Education, the government department charged by law with responsibility for the vocational rehabilitation of the disabled men of the American forces. Since the Federal Board has announced that it will, as far as

possible, make use of existing facilities for training, the Institute is prepared to receive soldier pupils who can profit from its instruction. Through its experience with training civilian cripples the Institute believes that it is able to offer reëducational facilities of real value to the disabled soldiers now returning from abroad. Comparatively few of these have as yet been discharged from the Army and made eligible for reëducation; now that peace is here the total number will never be more than a small fraction of the number of the disabled in France and other allied countries. It may well be, therefore, that the greatest work of the Institute will consist not in helping our disabled warriors to rebuild their lives, but in salvaging the less renowned victims of the industrial struggle. Having undertaken this task, the Institute, unlike many of the European reëducational schools, will be a permanent institution.

Six trades are being taught at present, with the probability that others will be installed as the demand develops. The selection of these trades has been governed by the same general principles that have formed the basis for selection in Europe: the suitability of the trade for handicapped persons, the length of time required to learn it, the standard of wages, the demand for workers, and the attitude of the trade toward apprentices.

The first shop installed was for the manufacture of artificial limbs. This trade was known



Oxy-acetylene Welding Room of the Red Cross Institute for Crippled and Disabled Men, 311 Fourth Avenue, New York City.

to be suitable for men with leg injuries, for numbers of them were already employed by the different limb manufacturers of the country. It was seen that there was no prejudice on the part of employers in the trade against disabled men; indeed, men who have had a leg amputated are considered an asset to the business, since they can be utilized in demonstrating as well as in producing. A man who has lost his leg seems, moreover, peculiarly suited to work

on artificial limbs; he knows from his own experience more about the fine points which make for comfort and usefulness in a leg than a normal workman can ever learn from others. The demand for limbs, and, as a consequence, for skilled workmen, has, of course, been greatly increased by the war.

Another factor influencing the Institute to manufacture artificial limbs was the desire to improve existing models and to standardize materials and design by scientific research and experimentation. To this end the Institute has entered into correspondence with the military hospitals and reëducational centers abroad that manufacture artificial limbs, and has secured specimens of the limbs now being used in Europe. It has fixed upon a model for a leg of the so-called American type, but it is still studying the problem of the working-arm.

A further consideration was the discovery that the first requirement of many applicants for aid was a limb. Until they were supplied with one, little hope of training or employment could be held out to them. By manufacturing the needed appliances in its own shop, the Institute is able to supply them at a much lower cost than would otherwise be possible. Just recently the Institute has made an agreement with the Bureau of War Risk Insurance whereby it will manufacture limbs in quantity to be furnished, through the Bureau, to Ameri-

can soldiers who have undergone an amputation.

Production in larger quantities than the trade has been accustomed to is possible in the Institute's artificial limb shop through the use of modern machine methods. The hand work in roughing out a limb has been greatly reduced by a lathe which turns out the wooden parts according to standard models. Another lathe, specially designed and built, automatically hollows out the stump socket in conformity to a plaster cast of the stump. The shop is also equipped with extensive bench facilities for hand work, with a gas forge and anvil, nickel plating facilities, special sewing machines for leather work, lathes for wood and metal work, a drill press, grinding and polishing machines, a band saw, and a sanding machine. Plaster casts are made from stumps and finished limbs adjusted in a separate fitting room.

Most of the pupils who have been trained have been kept on as paid workmen.

Printing, the next trade to be installed, is known to employ at good wages a steadily increasing number of men. In fact, it stands sixth in importance among the industries of the country, and in the New York district ranks third. The shop is equipped as a complete printing office, but for the present it is specializing on teaching the operation of the monotype caster. This can be learned in a reasonably short time and is within the powers of

a man with an injured leg, even with an amputated leg, if he can stand part of the time without discomfort. The demand for capable caster runners and machinists far exceeds the supply. A two-months' course of training has fitted the Institute's pupils to obtain positions as runners at $16 a week; some months' additional experience enables those who have ability to earn from $30 to $35 a week as machinists in charge of operation.

Although two good hands are, as a general rule, considered requisite for the work, there has been admitted to the class a former hand compositor who had suffered an injury to his right hand. Two fingers had been amputated and the remaining two were stiff. With his past experience in a printing shop to help him, he was able to finish the training in eight weeks and then to obtain a position at $19 a week. The foreman of the shop is now willing to accept as pupils men who have one good hand and the thumb and index finger on the other.

The operation of the monotype keyboard, a process very similar to typewriting, can be done by a man with both legs amputated or with other severe injuries which make seated work necessary, but there are union rules which bar keyboard work to anyone without five years' experience in the printing trade. A good keyboard operator can earn about $30 a week, and the field is an excellent one for cripples.

The mechanical drafting class was started primarily for the purpose of providing training for men and boys who have lost an arm. When it was first proposed that such a class should be started, leading engineers were questioned as to the possibility, in their opinion, of a one-armed man's becoming a successful draftsman. The replies were unanimous that the work was out of the question for men who had not two good hands. It was known, however, that in the reëducational schools of France drafting had offered good opportunities for men with arm injuries, and the Institute resolved to make the experiment. Desiring to secure as teacher a man who would have the needed confidence in the capacities of his pupils, the Institute sought as instructor a one-armed man. A man so handicapped was found, and under the inspiration of his example and teaching a number of one-armed men have successfully completed the course.

The first pupil was a Scandinavian who had lost his left arm in a lumber mill. In his search for work he had drifted to New York and obtained a job as messenger at $7 a week. He was interested in lettering and sign-painting but had been unable to obtain employment in that line. After three months' training in mechanical drafting, he has obtained a position with one of the large engineering firms of the city at a salary of $16 a week. Another pupil had lost his right arm at the elbow. After

slightly longer training, during which his left hand learned to use his instruments and his sensitive stump to hold the T-square and triangle, he was advantageously placed with a maker of thermometers. One of the most severely crippled men that the Institute has been able to help, a man with strong arms but with no power to move legs or back, received special training in small patent office drawings, being unable to bend over the board, as required by larger drawings. His work was so good that he left the class for a position in the Edison Laboratories. The first pay envelope he had ever received contained for one week's work $25. Another pupil still in the class has lost both legs and one arm.

Graduates of the class are, of course, not expert draftsmen. They have simply received a thorough training in tracing and a grounding in detailing; more cannot be done for them in a course lasting only a few months. The object of the course is to enable them to secure and hold down a position in which they can earn a living wage while they are perfecting their skill.

The course in oxyacetylene welding and cutting, judged by the rapidity with which the pupils are placed and the wages they receive, is one of the most successful at the Institute. In shipbuilding, in motor construction, in the maintenance of railways, and in all machine repair work there is a crying demand for men

who know how to use the oxyacetylene torch. So eager are employers to obtain trained workmen that they come to the shop and take the pupils away before they have finished the course. The trade is a popular one with disabled men because it can be learned in a short time and because the wages are very high considering the degree of skill required. Welding is taught in from four to five weeks; cutting in an even shorter time. The wages earned by graduates average about four dollars a day.

Fortunately the trade is within the capacities of a one-armed man, always the most difficult subject to retrain or place in employment. In the experience of the Institute welding can be done by a man with one good hand to manage the torch if the other arm is fitted with a working appliance capable of holding the strip of adding metal; cutting requires only one hand. One of the earliest pupils in the shop was a former boilermaker who had lost his right arm. He is now earning $4.15 a day. Another was an untrained Italian boy with a badly maimed hand. He has now a good position with a street railway company. Just recently there entered the class a man who had been a worker on submarine fittings, a skilled mechanic incapacitated by an injury to his left hand. After training as a welder, he went back to the shipyard to earn as much as before the accident. His injured hand, moreover, is constantly improving under the exercise he gets from the work.

The equipment of the welding shop consists of six welding stations, a cutting station, anvil, cutting shears, welding tables, and a gas generator. It is housed in a small one-story brick annex built for the purpose. A torch with a slightly different control has been devised for men who must hold it in their left hand.

Motion picture operating, also, is a rapidly growing industry, and in consequence the demand for trained operators far exceeds the supply. Under these conditions the wages are naturally good. The training period is also brief; the Institute course enables a pupil to qualify for a license as operator in from three weeks to a month. He can then begin to earn $20 a week, with the prospect of an increase as he becomes more proficient. Many disabled men find the opportunities offered in this field very attractive, and the course has been well attended. In no case has there been any difficulty about placing the men in good positions. Men with leg disablements are not at all handicapped if they can stand; operators must, however, have two good hands.

The first man that applied for the training was a sailor who had been severely injured by an explosion on a battleship. The necessity of returning to a hospital for further treatment interrupted his course, but he is determined to return and finish so that he can join the men overseas as a Y. M. C. A. operator.

For teaching purposes the classroom is

equipped with two projectors, a large asbestos booth, and such electrical apparatus as is needed to give a thorough understanding of the work. The booth is so situated that films can be shown in the large auditorium as well as in the classroom, an arrangement which permits the knowledge of the class to be put to practical use. A textbook for the use of classes in motion picture operating has been prepared by the instructor and is now being set in type in the printing shop.

The class in jewelry making, recently installed in the Institute, has been conducted for the benefit of crippled and deformed boys, under other auspices, for the past nine years. It has in that time clearly demonstrated its usefulness. The course is longer than others at the Institute; a period of from eight months to two years, depending upon the talents of the individual boy, has been found necessary to give pupils the grounding in the trade which they must have in order to secure employment. For grown men, disabled by industrial accidents and eager to obtain a paying job as soon as possible, the time is too long. Boys well-trained in the elements of the trade have easily obtained employment.

In the case of disabled soldiers or sailors there is no difficulty about their maintenance during training. By the terms of the rehabilitation law they and their families are supported during the period of training. How civilians

disabled by accident or disease are to be supported while they are attending classes is more of a problem. For a certain period of time after their accident workmen disabled in industry receive workmen's compensation; if they take their training before the time limit is up, the compensation will often suffice for their support, but the general tendency among men receiving compensation is not to seek either employment or training until their compensation is exhausted. Then, when destitution is staring them in the face, they apply at the Institute for help. These cases, if accepted for training, have to receive a maintenance allowance from the Institute. The money is not given to them outright, for there is no wish to make them forfeit their self-respect by accepting charity, but it is paid out of a special fund in the form of a loan without interest. Later, if the training has enabled a man to better his situation, he is expected to return the loan in easy payments. Some men, reluctant to burden their future with a debt, prefer to support themselves during their training by evening or part-time work, even if they are thereby compelled to spend a longer period in the school. The Institute has thought it wise to help such men in obtaining work and to make special regulations about the hours of their attendance in classes. In shops where the pupils are engaged in productive work, as in the artificial limb shop and in the printing shop, and part

of the time in the drafting and jewelry classes, the pupils receive small wages proportioned to their skill.

Every effort is made by the Institute to get in touch with disabled men as soon as possible after their accident, and to describe to them, before they have become habitually idle and hopeless, the benefits held out by trade training Constant relations are maintained with State industrial commissions, and a number of men have been sent to the Institute with liberal allowances for maintenance by commissions which thought this a wiser and more economical plan than long-continued compensation payments. The hospitals of the city are regularly visited by an experienced social worker, who talks with patients likely to be permanently disabled and tries to interest them in the training courses.

Many cripples have first learned that a man is not necessarily down and out just because he is disabled through a series of evening "parties" held at the Institute. Cripples from all over the city, all whom the Institute has record of, are invited, and a goodly number usually attend. The evening's entertainment is designed to arouse their ambition by showing them how other disabled men have overcome their handicaps. Lantern slides and moving pictures show how the war cripples of Europe have been trained in gainful occupations; other specially prepared films give a close-up view of the way certain severely crippled men have managed to

live and work. In between the pictures disabled men who have made a success of their life tell of their experiences. The effect of such examples on men who have long thought there was no use in trying cannot be overestimated. In the days following these parties there is always a notable increase in the applications for employment or training.

Newspaper articles describing the work of the Institute are used to bring its facilities to the attention of men who cannot be reached in any other way.

When pupils have finished their training courses, positions are secured for them by the employment department of the Institute. This department runs the only employment bureau for cripples in the city, placing not only pupils of the Institute, but all cripples who want work. Cripples are so difficult to place—the task demands so much special knowledge and individual attention—that the public employment offices can do little for them, and the need for a specialized bureau was very real. In the first ten months 700 cripples were registered, and 620 definite placements were made.

After a man has been placed, the bureau endeavors to keep in touch with him for some time. On one evening a week the office is kept open, and the men are asked to come in and tell how they are getting on. If they are having difficulties with their employer, the bureau attempts to make the necessary adjustments.

When a man fails to call, a representative of the Institute visits him at his home or interviews his employer. Without such follow-up work the Institute feels that placement may be but temporary and valueless.

Training and placement are but two of the activities of the Institute. Its other work is national in scope, comprising the maintenance of a large library on the rehabilitation of cripples, the operation of an extensive department of research, the making of industrial surveys to determine employment opportunities for the disabled, and the conduct of a vigorous campaign of public education to inculcate a more constructive and helpful attitude toward the disabled. These activities, which cannot be described within the scope of the present article, are considered as important, if not more important, than the functions of training and placement.

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